

2017 Summer Meetings Poster Abstracts

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Poster Title: Total and excess costs associated with bipolar I disorder in the United States in 2015

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Purpose: Bipolar disorder (BD) is a mood disorder characterized by depressive and manic/hypomanic episodes. BD type I (BDI) is estimated to affect approximately 1% of the United States (US) population. BDI-related mania or mania with mixed features can be associated with significant long-lasting health, social, and financial burdens. However, there is scant information on contemporary estimates of the costs of BDI, which may have been impacted by the disease management and structural changes over the last years. This study aims to estimate the total and excess costs of BDI in 2015 from a US societal perspective.

Methods: A prevalence-based approach was used to assess direct healthcare, direct non-healthcare, and indirect costs associated with adults with BDI in 2015 in the US. Direct healthcare costs (pharmacy and medical) were estimated based on a retrospective matched cohort design where adults with and without BDI with similar demographics were matched using the Truven Health Analytics MarketScan Commercial Claims and Encounters, Medicare Supplemental, and Medicaid Multistate databases, which complied with the patient requirements of the Health Insurance Portability and Accountability Act. Direct non-healthcare costs included substance abuse-related expenditures (justice system, crime victims, productivity loss from incarceration, prevention/research, vehicle accident) and research and training related to BD. Indirect costs included caregiving costs (productivity loss due to caregiving and excess healthcare costs incurred by caregivers), productivity loss from unemployment, productivity loss from premature mortality (e.g., suicide, comorbidities), and reduced productivity at work (among employed individuals). Direct non-healthcare and indirect costs were estimated based on data from the literature and governmental publications. Total

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costs were estimated based on all costs incurred by individuals with BDI while excess costs were based on the cost differences between individuals with BDI and the general US population. Costs were adjusted for inflation and expressed in 2015 US dollars. Sensitivity analyses were conducted to assess the robustness of the estimates and account for differences in published estimates.

Results: In 2015, the total cost of BDI in the US was estimated at \$202.1 billion (ranging from \$182.5 to \$207.3 billion based on the most and least conservative estimates); the largest contributors were productivity loss from unemployment (36%), caregiving costs (25%), and direct healthcare costs (23%). The excess cost of BDI was estimated at \$119.8 billion (ranging from \$101.2 to \$124.3 billion); the largest contributors were caregiving costs (36%), direct healthcare costs (21%), and productivity loss from unemployment (20%). Direct healthcare costs were estimated based on 202,019 and 604,705 individuals with and without BDI. Total and excess direct healthcare costs of BDI were estimated at \$18,931 and \$10,162 per individual/year for a total of \$46.9 and \$25.2 billion. Direct non-healthcare total and excess costs were estimated at \$9.0 and \$6.8 billion (excess costs: \$6.7 billion for substance abuse; \$0.1 billion in research and training). Indirect total and excess costs were estimated at \$146.2 and \$87.8 billion (excess costs: \$42.8 billion from productivity loss due to caregiving; \$24.2 billion from productivity loss from unemployment; \$10.6 billion from productivity loss from premature mortality; \$9.3 billion from reduced work productivity; 0.9 billion from excess healthcare costs incurred by caregivers).

Conclusion: BDI is associated with significant total and excess costs from a US societal perspective; on average, the annual total and excess costs per individual with BDI were estimated at \$81,559 and \$48,333 in 2015. The importance of the excess direct healthcare costs and the magnitude of the excess costs due to caregiving and productivity loss from unemployment suggest that effective treatments and interventions to ameliorate disease management and symptoms should be targeted. This study is an important update to the existing literature on the economic burden of BDI and enhances the state of knowledge on this condition.